IN THE CLAIMS:

Please amend the claims as indicated below:

1. (Currently amended) A method for characterizing gene expression, the method comprising the steps of:

determining a plurality of gene expression signals for a gene, wherein said plurality of gene expression signals comprise control data and phenotype data;

transforming said plurality of gene expression signals, wherein said transforming results in transformed gene expression signals having a uniform distribution of said gene expression signals within a selected interval in said control data;

using said transformed gene expression signals to determine one or more gene expression patterns by searching said transformed gene expression signals for said one or more gene expression patterns, wherein the one or more gene expression patterns characterize said control data and said phenotype data; and

characterizing gene expression of an unknown sample by determining one or more gene expression patterns for said unknown sample and comparing said one or more gene expression patterns of said unknown sample with said one or more gene expression patterns that characterize said control data and said phenotype data to characterize said unknown sample as either said control data or said phenotype data or neither; and

outputting said characterization to at least one of a computer and a user.

2. (Previously presented) The method of claim 1, further comprising the step of transforming gene expression signals of an additional sample.

3. (Currently amended) The method of claim 1, wherein the step of transforming comprises

2

the steps of:

determining a function that approximates a distribution of the plurality of gene expression signals for the gene; and

using the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval in said control data.

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Currently amended) A system comprising:

a memory that stores computer-readable code; and

a processor operatively coupled to the memory, the processor configured to implement the computer-readable code, the computer-readable code configured to:

determine a plurality of gene expression signals for a gene, wherein said plurality of gene expression signals comprise control data and phenotype data;

transform said plurality of gene expression signals, wherein said transforming results in transformed gene expression signals having a uniform distribution of said gene expression signals within a selected interval in said control data;

use said transformed gene expression signals to determine one or more gene expression patterns by searching said transformed gene expression signals for said one or more gene expression patterns, wherein the one or more gene expression patterns characterize said control data and said phenotype data; and

characterize gene expression of an unknown sample by determining one or more gene expression patterns for said unknown sample and comparing said one or more gene expression patterns of said unknown sample with said one or more gene expression patterns that characterize said control data and said phenotype data to characterize said unknown sample as either said control data or said phenotype data or neither; and

output said characterization to at least one of a computer and a user.

18. (Previously presented) The system of claim 17, wherein the computer-readable code is further configured to transform gene expression signals of an additional sample.

4

19. (Currently amended) The system of claim 17, wherein the computer-readable code is further configured, during the step of deriving, to perform the steps of:

    determine a function that approximates a distribution of the plurality of gene expression signals for the gene; and

    use the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval <u>in said control data</u>.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Currently amended) An article of manufacture comprising:

    a computer readable medium having computer readable code means embodied thereon, the computer readable program code means comprising:

    a step to determine a plurality of gene expression signals for a gene<u>, wherein said plurality of gene expression signals comprise control data and phenotype data</u>;

    a step to transform said plurality of gene expression signals, wherein said transforming results in transformed gene expression signals having a uniform distribution of said gene expression signals within a selected interval <u>in said control data</u>;

    a step to use said transformed gene expression signals to determine <u>one or more</u> gene expression patterns <u>by searching said transformed gene expression signals for said one or more gene expression patterns, wherein the one or more gene expression patterns characterize said control data and said phenotype data</u>; and

5

a step to characterize gene expression of an unknown sample by <u>determining one or more gene expression patterns for said unknown sample and</u> comparing said <u>one or more</u> gene expression <u>patterns</u> of said unknown sample with said <u>one or more</u> gene expression patterns <u>that characterize said control data and said phenotype data to characterize said unknown sample as either said control data or said phenotype data or neither; and</u>

<u>a step to output said characterization to at least one of a computer and a user.</u>

24. (Previously presented) The article of manufacture of claim 23, wherein the computer-readable code means further comprises a step to transform gene expression signals of an additional sample.

25. (Previously presented) The article of manufacture of claim 23, wherein the computer-readable code means is further configured, during the step of deriving, to perform:

a step to determine a function that approximates a distribution of the plurality of gene expression signals for the gene; and

a step to use the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval.

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Previously presented) The method of claim 1, wherein the selected interval comprises an interval between 0 and 1.